

Synopsis of the Genus *Piseinotecus* with Description of *Piseinotecus evelinae* spec. nov.

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(5 Text figures)

STUDYING THE AEOLIDACEA of the Mediterranean I found in 1965 and 1966 two specimens of an unknown small Aeolid resembling externally a *Flabellina* with cerata on stalks and with annulated rhinophores, but with a uniseriate radula, thus belonging to the genus *Piseinotecus*.

I agree with EDMUNDS (1970: 39) and DU BOIS-REYMOND MARCUS (1977: 15) that the acleioproct genus *Piseinotecus* Marcus, 1955, does not belong to the Cuthonidae where MARCUS (1955: 176) placed it first because of the unusual shape of the radula plates, the proximal position of the receptaculum (Diaulie II, SCHMEKEL, 1970) and the absence of a penial gland. EDMUNDS (*loc. cit.*) put *Piseinotecus* into a new family, Piseinotecidae (compare also DU BOIS-REYMOND MARCUS, *loc. cit.*), a family which "connects" the pleuroproct with the Acleioprocta. The mediterranean *Calmella* Eliot, 1906 (type-species *Eolidia di cavolinii* Vérany, 1846: 26) is very similar to *Piseinotecus*. *Calmella cavolinii* has the receptaculum in the same position (SCHMEKEL, 1970: 143f.; figs. 6a, 7), no penial gland, a simple penis, the anus in the same position and the same modus of branching of the digestive gland. Only the radula is different; it is uniseriate in young and triseriate in old specimens of *Calmella cavolinii* (I have to correct what I reported in 1965: 458f. I examined more and larger animals from different localities) and triseriate in *Calmella bandeli* du Bois-Reymond Marcus, 1976, while *Piseinotecus* always has a uniseriate radula.

PISEINOTECIDAE Edmunds, 1970 : 39

Aeolidacea acleioprocta with a uniseriate radula. Rhinophores often smooth. Cerata raised on stalks in tufts or in rows. Only one row or tuft arising from the anterior digestive gland.



Figure 1

Piseinotecus evelinae Schmekel, spec. nov.

Holotype after fixation (alive 6 mm)

A - anus

Piseinotecus Marcus, 1955

Acleioproct Eolidacea with uniseriate radula. Rhinophores smooth or finely annularly wrinkled, often a little longer than the oral tentacles. Cerata raised in tufts on stalks or in rows; only one row or tuft arising from the anterior digestive gland. Foot with short angled corners. Masticatory border of jaw with one row of denticles. Tooth horseshoe-shaped with a prominent median cusp and denticles on each side. Receptaculum proximal to the capsule and mucous gland, penis unarmed, without penial gland.

Type-species: *Piseinotecus divae* Marcus, 1955.
[MARCUS, 1955: 176-178; figs. 244-248]

Piseinotecus evelinae Schmekel, spec. nov.

Material: Naples: 2 specimens; the first, when alive 6 mm in length, Capo Miseno, 15 m, 17 XII 1964; the second, 3.5 mm when alive, Punto Pizzago, 0 m, 3 III 1966. Holotype: Alive 6 mm, 17 XII 1964, 15 m, Capo

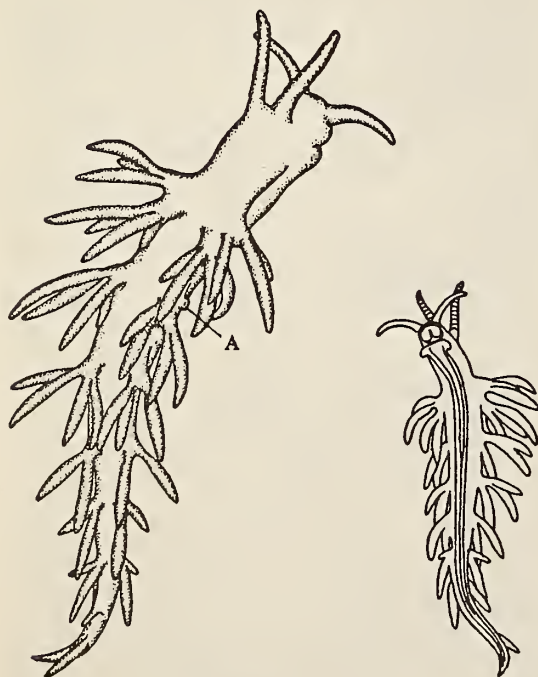


Figure 2

Piseinotecus evelinae Schmekel, spec. nov.

Dorsal and ventral aspects

A - anus

Miseno (Naples, Italy), deposited in the Naturhistorische Museum, Basel, Switzerland.

Description: Alive, the slender body of the larger specimen is 6 mm long; after fixation it is 4 mm with a maximum height of 0.8 mm in the pericardial region. The maximum width of 0.5 mm is at the head and in the region of the first group of cerata. The foot is rounded anteriorly, with short but distinct projections on the corners, and a very short, pointed tail.

In the living animal, the rhinophores are up to 1.8 mm long, the oral tentacles 1.5 mm. After fixation both are 1 mm in length and have a basal diameter of 0.14 mm. The pointed, cylindrical rhinophores have fine annular wrinkles which are discernible even when they are fully extended.

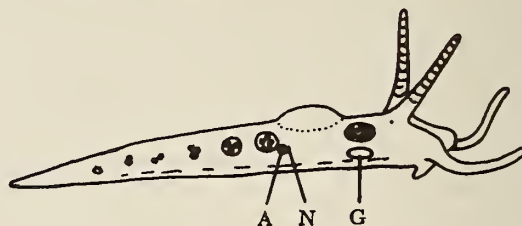


Figure 3

Piseinotecus evelinae Schmekel, spec. nov.

Arrangement of the Cerata

A - anus

G - gonopore

N - nephroproct (?)

On either side of the body there are 7 groups of cerata opposite each other. The 3 anterior groups have a common stalk up to 0.2 mm in length, which branches once in the first and second groups. On the stalk, or on its branches, the cerata are situated in bundles at the same level. The branches of the first group have 3 and 5 cerata, the second 3 and 2 cerata. The next 2 groups bear 3 cerata, the fifth group 2, groups 6 and 7 only one ceras each. At the end there is an unpaired, medianly situated ceras. All cerata are narrow, spindle-shaped and terminally pointed, with a maximum length of 1 mm and a width of 0.14 mm after fixation.

The anus is situated immediately in front of the stalk of the second group of cerata; the nephroproct [not seen with certainty] in front of the anus, and the gonopore below the first group of cerata.

The jaw is oval and 0.3 mm long. Its cutting edge is denticulated with pointed denticles of up to 0.01 mm.

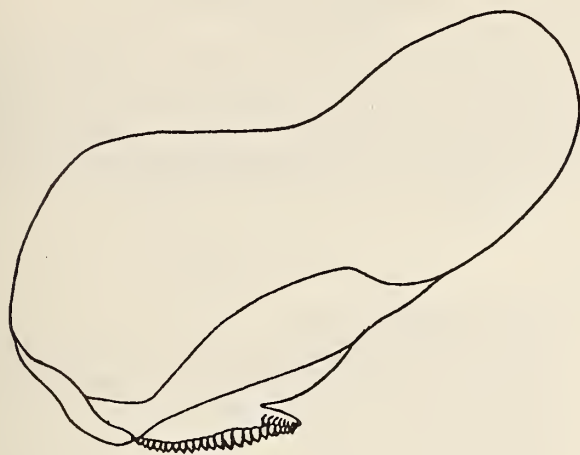


Figure 4

Piseinotecus evelinae Schmekel, spec. nov.

jaw

In the posterior region of the masticatory border there are 2 rows of short denticles.

The radula formula of a specimen of 3.5 mm length is $22 \times 0.1 \cdot 0$. The horseshoe-shaped tooth, with a maximum length and breadth of 0.03 mm has a prominent cusp, only slightly stronger than the 6-8 denticles on each side; the denticles are of nearly equal size. Only the marginal denticles are shorter.

Piseinotecus evelinae is covered all over with opaque white, only the midgut gland in the cerata is deep brown, lying below a transparent epithelium.

DISCUSSION

The following species of *Piseinotecus* have been described:

Synopsis: *Piseinotecus divae* MARCUS, 1955: 177-178; figs. 244-248; São Sebastião (Brasil). Smooth rhinophores, longer than the oral tentacles. Cerata united in bundles on very short common stalks. Radula $12 \times 0.1 \cdot 0$; cusp large and prominent with 12 small denticles on either side. Jaws with one series of denticles. Body whitish with a greenish-grey digestive gland.

Piseinotecus sphaeriferus (Schmekel, 1965)

SCHMEKEL, 1965: 452-461; figs. 1-5; Naples (Italy).
Ref.: EDMUNDS, 1970: 39.

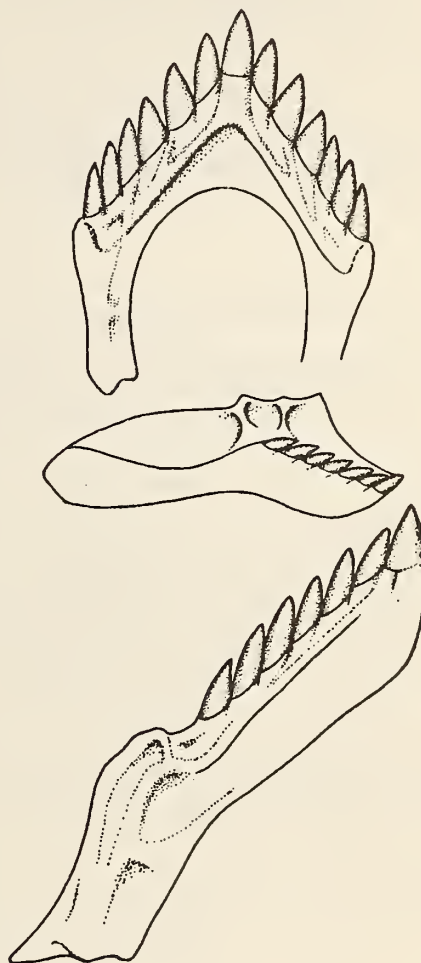


Figure 5

Piseinotecus evelinae Schmekel, spec. nov.

radula

Smooth rhinophores, as long as the oral tentacles. Cerata united in bundles on very short common stalks. Radula $14 \times 0.1 \cdot 0$, cusp very large and prominent with up to 14 fine denticles on either side. Jaws with one series of denticles. Body transparent with distinct opaque white spots; digestive gland brownish. A green "ball" which perhaps is a glandular region of the digestive gland is situated at the base of each ceras.

Piseinotecus gonga EDMUNDS, 1970: 35-36; figs. 15, 16A; Dar es Salaam (Tanzania).

Smooth rhinophores, larger than the oral tentacles. The cerata are arranged vertically in rows, but do not arise from common stalks. Radula $17 \times 0.1 \cdot 0$. Each tooth has long basal processes, a prominent cusp and 6-9 small denticles on each side. Body suffused with pale brown, the dorsal surface covered with evenly spaced purple-brown and half as many cream spots. Rhinophores and oral tentacles with bands of dark green about $\frac{2}{3}$ of their length.

Piseinotecus kima EDMUNDS, 1970: 36-39; figs. 16, B, 17; Dar es Salaam (Tanzania).

Smooth rhinophores, longer than the oral tentacles. Cerata arranged in vertical rows without stalks. Radula $16 \times 0.1 \cdot 0$. The teeth have huge basal processes, a prominent cusp and 7-9 small denticles on each side. Body transparent with scattered orange-yellow and smaller white spots. Rhinophores and oral tentacles with pale green bands.

The annulated rhinophores, the shape of the radula tooth - with small median cusp and nearly equally strong denticles on the sides - and the masticatory border of the jaw with 2 rows of denticles separate *Piseinotecus evelinae* from all the species of *Piseinotecus* listed above.

The species is dedicated to Dr. Eveline du Bois-Reymond Marcus with greatest respect and profound thanks for her patient help and wise encouragement during many years.

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